

# CONTAGIOUS PLEURO-PNEUMONIA.

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REPORT OF PROCEEDINGS

AT A

CONFERENCE

HELD AT THE OFFICE OF THE

DEPARTMENT OF HEALTH,

✓  
BROOKLYN, N. Y.,

January 9th, 1884.



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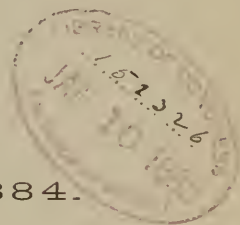
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PREPARED BY THE COMMISSIONER OF HEALTH.



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# REPORT

OF

## PROCEEDINGS AT THE CONFERENCE.

The following invitation was sent to Health officers, veterinarians, and others, interested in the subject of contagious pleuro-pneumonia among cattle:

DEPARTMENT OF HEALTH,  
OFFICE OF THE COMMISSIONER,  
MUNICIPAL DEPARTMENT BUILDING, ROOM 21,  
BROOKLYN, N. Y., Dec. 26, 1883. }

DEAR SIR—You are invited by the Commissioner of Health to attend a conference, for the discussion of the question of the prevention of contagious pleuro-pneumonia among cattle, to be held at this office, on January 9, 1884, at 10 A. M.

The existence of contagious pleuro-pneumonia, especially in the southerly section of the State, and the injurious influence of that disease upon the food and milk supply, make it advisable to inquire into the best means for checking and stamping out that plague. With this end in view, this conference has been proposed to numerous sanitarians and veterinarians.

Professor Law and others have signified their intention to be present.

Will you please inform me if your attendance may be expected.

Yours respectfully,

R. M. WYCKOFF, M.D.,

*Secretary.*

In response thereto, the following communications were received:

STATE BOARD OF HEALTH OF NEW YORK, }  
ALBANY, January 4, 1884. }

DEAR SIR—I have the honor to acknowledge the receipt of your communication, inviting me to be present at the conference on the Bovine lung plague, and on the food and milk supplies, to be held on Wednesday next, in Brooklyn. I shall endeavor to be present. If absent, however, Professor James Law will correctly represent the views and wishes which are entertained by this Board, and especially by me.

Having been an observer and student of the lung plague since its first introduction into this country, and believing it to have

been introduced in consequence of oversight and neglect of the Federal Government, in respect to guarding against methods of maritime importation, I entertain no doubt of the obligation of the government to institute such measures as will ensure the extermination of this plague of cattle from our country.

Respectfully,

E. HARRIS,  
*Secretary,*

UNITED STATES TREASURY CATTLE COMMISSION, {  
ITHACA, N. Y., December 10, 1883. }

DEAR DOCTOR—I am just in receipt of a letter from Dr. Harris, conveying your suggestion of a convention in Brooklyn, on the question of the suppression of lung plague. As a member of the Treasury Cattle Commission, I would gladly second your suggestion, if there were any reason to hope that it would facilitate efficient legislation at Washington for the thorough extinction of this disease. I am not hopeful of any of the inoculation methods unless sustained by such restriction of movement, from herd to herd, as would probably make it more obnoxious than a prompt extinction by occision and disinfection. As regards inoculation with lymph containing living germs I found little in Europe to alter my views as to its inefficiency and dangers. In Edinburgh, which it was claimed it had purified from the infection, I found that city dairies were furnishing frequent examples of cows with diseased lungs sent to abattoir. The animals that took sufficiently were protected, and so long as no others entered the cow-houses, no disease of the lungs resulted, but the germs were multiplied and laid up in the buildings, and whenever an unprotected animal entered, it fell a victim. So in South Holland the extensive losses were warded off, but the abattoirs showed lungs with the specific lesions of lung plague taken from animals furnished from the inoculated distillery herds. Now if you take a restricted view of the matter, no doubt you can greatly reduce the mortality in the Brooklyn dairies by inoculation, but neither in Brooklyn, nor in any other part of the world can we hope for a complete extinction of the germ in this way. If we take the wider view of the relation of the plague to the nation and to our *great export trade*, we must acknowledge that there is where our great losses come—even if indirect ones—and no mere reduction of our losses, which comes short of a complete extinction of the germ, can abolish these. It matters little whether we inoculate with a germ of full or lessened virulence. So long as such germ is alive we are still sowing the seeds of the plague. I have always believed in inoculation as protecting the inoculated herd, but I cannot shut my eyes to the inevitable results of thereby cultivating and increasing the virus. My method of

inoculation with sterilized lymph has, in my experience, fulfilled every demand, and avoided the danger of propagating the poison when applied to animals sometime before they entered the infected premises ; but to secure this last condition we must have a control of movement and a detention of incoming cattle, which virtually forbid its extensive adoption.

It seems preposterous that we should go on losing \$3,000,000 and upward yearly on our export cattle trade, when half that sum properly applied would speedily remove the source of these losses and avert the constant danger of the infection of the West. In the present infected condition of the dairies in Brooklyn and New York City, probably little harm can come of an extensive or universal inoculation, and correctly performed it will doubtless save the great majority of the local losses, but as soon as the government is prepared to stamp out the disease, I trust that all preservation and propagation of the poison by inoculation or otherwise will be put a stop to. I am now moving to secure national legislation, and shall be glad of any assistance you can give through correspondence, conference or otherwise.

Very faithfully yours,

JAMES LAW.

U. S. DEPARTMENT OF AGRICULTURE, }  
(VETERINARY DIVISION), }  
WASHINGTON, D. C., January 2, 1884. }

DEAR DOCTOR—Please accept thanks for your kind invitation to attend the meeting to discuss questions relating to the prevention of pleuro-pneumonia. I am heartily in sympathy with the object of the conference, and should certainly be present, were it not for the press of urgent work which demands my presence here. A national committee, of which I am a member, meets here January 10th, with the same object in view. The ultimate object is to influence Congress to pass a bill for exterminating this plague, and if you can assist in bringing influence to bear upon this body that will procure such legislation, it will doubtless be the most effective line of work that can be adopted for this purpose.

Very respectfully,

D. E. SALMON,  
*Chief of Veterinary Division.*

OFFICE OF }  
JOHN W. GADSDEN, M.R.C.V.S., ENG., }  
VETERINARY SURGEON, }  
No. 134 NORTH TENTH STREET, }  
PHILADELPHIA, January 2, 1884. }

DEAR SIR—In answer to your circular-letter, inviting me to a conference on that important question, “stamping out

contagious pleuro-pneumonia," I cannot refuse. If I can do the least possible good, I am quite willing to attend and do all in my power to aid in the extermination of this "foreign" plague from the United States, and in my opinion, *now is* the proper time to agitate this matter for the information of Congress.

Very respectfully,  
J. W. GADSDEN,  
V. S.

NEW YORK AGRICULTURAL EXPERIMENT STATION, }  
DIRECTOR, DR. E. L. STURTEVANT, GENEVA, ONTARIO CO., N. Y. }  
GENEVA, N. Y., December 31, 1883. }

DEAR SIR—Your circular of December 26th is received. A previous engagement will, however, prevent my acceptance of the invitation. I hope that you will discuss and meet this important question—pleuro-pneumonia—wisely and boldly.

Very truly, yours,  
E. LEWIS STURTEVANT.

NEW YORK, January 10, 1884.

DEAR SIR—Your notice of a meeting of your Board in regard to pleuro-pneumonia for yesterday was only handed to our Board at our regular meeting, Tuesday evening. Unfortunately our members are all business men, and at such a short notice none of us could report yesterday; consequently, to show you we were all interested I hurried over. Hoping it would be in time to let you gentlemen know that we want to be known as interested in any movement to prevent and exterminate this disease. I have personally lost two valuable cows, and have had many cases in my neighborhood, and am sure it is all over the Island.

I should feel obliged if you would send notice of all meetings and some of us will try and attend.

I am at my office from 9 until 5 o'clock; or, if out, only within five minutes' call. Possibly, if you are over here, you would do me the pleasure of a call. What are your office hours?

Yours truly,  
J. F. EMMONS,  
New Brighton Board of Health.

Address, Box 243, New York.

NATIONAL MILITARY HOME, }  
OHIO, January 9, 1884. }

MY DEAR SIR—I have your invitation to attend the conference in relation to contagious pleuro-pneumonia among cattle,



which happens to have been delayed on the way by the recent storms. Even if I had received it in time, it would not have been possible for me to attend, which I very much regret, as I am still deeply interested in the matter. Our beef supply for this institution calls for from eighteen to twenty head per week, of the best cattle of these cattle-feeding States.

Please send me any publication which may be made of your proceedings, as I wish to keep posted in regard to these matters.

Yours truly,

M. R. PATRICK.

Regrets were received from the following gentlemen :

Dr. H. Hardenbergh, Port Jervis.

Dr. Frank P. Foster, New York City, editor *New York Medical Journal*.

Professor A. Liautard, M. D., V. S., American Veterinary College, N. Y.

Dr. J. S. Andrews, Health Officer, E. N. Y.

Dr. J. L. Zabriskie, Health Officer, Flatbush.

Professor Chas. P. Lyman, F.R.C.V.S., Harvard University.

Dr. Valentine Browne, Health Officer, Yonkers.

Dr. J. Blake White, New York Board of Health.

## PROCEEDINGS.

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The conference met at the offices of the Department of Health on the day and hour appointed. The following gentlemen were present :

Honorable Erastus Brooks, member of the New York State Board of Health.

Professor James Law, of the U.S. Treasury Cattle Commission.

Andrew Otterson, M.D., formerly Health Com. of Brooklyn.

D. B. Whitney, M.D., Health Officer, E. Norwich, L. I.

C. E. Munsell, M.D., of N. Y. State Board of Health.

E. W. Martin, M.D., of N. Y. State Board of Health.

H. G. V. de Hart, M.D., Health Officer of Pleasantville, N. Y.

A. N. Bell, M.D., editor of *The Sanitarian*.

J. W. Gadsden, M.R.C.V.S., of Philadelphia.

E. H. Bartley, M.D., inspector in the Department of Health, Brooklyn.

Peter Peters, V.S., N. Y. College of Veterinary Surgeons.

Messrs. Hicks and Williams, dairymen of Roslyn, N. Y.

J. D. Hopkins, D.V.S., of Wyoming Territory.

W. B. E. Miller, D.V.S., Camden, N. J.

L. T. Bell, M.D., D.V.S., Consulting Veterinarian, Brooklyn Department of Health.

L. McLean, M.R.C.V.S., Veterinary Inspector, Brooklyn Department of Health.

R. A. McLean, D.V.S., Brooklyn.

W. H. Pendry, D.V.S., Brooklyn.

L. V. Plageman, M.R.C.V.S., Brooklyn.

Commissioner Raymond, in calling the conference to order, said :

"I presume, gentlemen, that you are aware that the subject of contagious pleuro-pneumonia has interested this city probably more than any other in the State, or, indeed, in the United States, for the reason that it has been more or less prevalent here since the year 1845. We have felt for a number of years the importance of the subject, not so much because we were interested in it as a commercial question, as from a sanitary point of view. We have found considerable difference of opinion among veterinarians as to the effects produced upon the meat and milk supply. We think it is our duty to give the people the benefit of the doubt, and have always believed that,

in the acute stages at least, it rendered the milk and the meat of the affected animal unfit for human consumption. I know that this is controverted by some, but the duty of a health department is to do whatever it can for the health of the city ; and, if there is any difference of opinion, it is its duty to decide in favor of the people.

“ On the 28th of January, 1879, the following report \* was made to the Board of Health of Brooklyn by its Sanitary Superintendent :

“ Dr. McLean, Consulting Veterinary Surgeon, reports to me that he examined yesterday the cows at the swill-milk stables of Gaff, Fleischmann & Co., at Blissville, and found every second cow diseased, and every third suffering from pleuropneumonia, a disease which runs through a herd of cows like wildfire, and so affects them as to render their milk not only unwholesome, but poisonous. The temperature of these animals was as high as 107 degrees Fahrenheit, showing an intense fever. Milk from these stables undoubtedly finds its way into our city, and I therefore recommend that the most stringent measures be taken to prevent the admission into Brooklyn of any milk from these stables. These buildings are beyond our jurisdiction, and we have no power to enter them even for purposes of investigation ; but in some way this dangerous nuisance should be abated, even if we are compelled to seek the power from the Legislature.”

As these stables were located in Queens County, and beyond the jurisdiction of the Brooklyn Board of Health, a resolution was adopted, instructing the Superintendent to confer with the Health Officer of Long Island City, to see what could be done to prevent the sale of milk from them.

In addition to this a further examination was desired by the Board, and as the report of Dr. McLean was said by those interested in the stables not to be founded on facts, Dr. Alfred Large, also Consulting Veterinary Surgeon of the Department, was assigned to the duty of making the physical examination of the affected cows. The reports of the Superintendent and of Dr. Large were as follows :

BROOKLYN, February 7, 1879.

*H. A. Lafetra, Secretary :*

SIR—In company with Dr. Alfred Large, consulting veterinary surgeon, I visited, on the 5th inst., the cow stables con-

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\* This report, and others which follow, which were referred to at the conference, are here given in full.

nected with the distillery of Messrs. Gaff, Fleischmann & Co., at Blissville, Queens county. The examination which Consulting Veterinary Surgeon McLean made on the 25th of January, and the result of which was briefly reported by me to the Board of Health on the 28th of the same month, was incomplete, as he was requested to leave the stables before he had examined the animals thoroughly. Our visit, on the 5th inst., was made with the object of giving more time to the inspection of the animals than Dr. McLean was allowed to give, and to ascertain if disease was as prevalent, as he inferred from his brief visit. Although these stables are entirely beyond our jurisdiction, yet their proximity to our city makes it very important that we should be cognizant of their condition, lest unwholesome milk and diseased meat from them should be sold within our city limits.

The number of cows said to be there at the time of our visit was about eight hundred. We found them in wooden stables, in stalls varying in width from thirty-seven to forty-two inches, tied by the head with ropes of sufficient length to permit them to lie down. The stables were in rows of fifteen, with just enough room between the heads of the animals for a person to pass, while behind them was a wider space, in which fell all the excrement and urine, and from which it was removed by brooms. In front of each row was a trough containing distillery swill at a temperature of 109 degrees Fahrenheit. These troughs are connected with large tanks and are so contrived that by pulling a slide the swill can be admitted to them. The ventilation and lighting of the stables are provided by the doors. When these are closed, as they were in some parts of the stable, the interior is dark. The moment we entered the stables we heard the cows coughing, and during our entire stay there was hardly a moment when a cough was not heard. The animals were constantly expelling their waste, the nature of the swill being to stimulate the kidneys and largely to increase their secretion, and also to render the fæces very soft, indeed almost liquid. It was impossible in walking between the rows to escape being spattered from head to foot with this filth. It is not possible, in my opinion, for these cows to be milked without some of their excrement finding its way into the milk, while the continual sweeping of the filth must impregnate the atmosphere of the stable with excrement to such a degree as to affect the milk injuriously, even though it were from perfectly healthy animals, and removed from the stables as soon as milked from the cow. At the time of our visit there were in the stable a number of milk cans without any distinguishing marks upon them: some were empty and some contained dirty water, but all uncovered and exposed to the influence of this poisonous atmosphere. So that were pure milk put into them, it would undoubtedly soon become contaminated.

We asked to be shown the sick cows and were immediately told that there was not a single sick one in the stable. We commenced our examination in the second row, selecting an animal that seemed to be more lively than some of the others. The natural temperature of a cow in health should be 99 to 100 degrees Fahrenheit. The temperature of this animal was 102 $\frac{2}{3}$  degrees Fahrenheit, showing the presence of fever. Dr. Large examined the cow and found all the signs of pleuropneumonia, the left lung solidified and the rumbling sound characteristic of pleurisy being distinctly heard. Five quarts of milk was the daily yield of this cow, and this milk from a sick cow, exposed to the further contaminating influence of an excrement-soaked air, and doubtless put into a can which had been uncovered for twelve hours and in the same air, finds its way into the common stock and is distributed doubtless as "pure Orange county milk;" indeed, one of the cans in the stable was labelled, "Orange Farm." Dr. Large continued this examination throughout the stable, selecting the cows at random, and, as will be seen by his report herewith submitted, not finding a healthy one. The lowest temperature he found was 100 degrees Fahrenheit; another one had a temperature of 101 $\frac{1}{4}$  degrees Fahrenheit. With these exceptions all that were examined showed a temperature of 102 degrees Fahrenheit or more. Our attention was called to one of the cows that, being dry and very fat, was about to be sent to the butcher. The temperature of this animal was 102 degrees Fahrenheit. Specimens of milk from four cows were taken for analysis, one of the animals being considered as better than the rest. These animals never leave the stables from the time they enter until, giving no more milk and being "fattened," they are driven to the slaughter house, contributing during life to the propagation of disease through their milk, robbing the infant of its sole chance for life, and after death furnishing diseased beef to the adult who depends upon his strength and health for the support of himself and family. The influences which this milk and this meat have exercised in the past, and are now exercising on the surrounding communities can never be known. Nothing should stand in the way of putting an end to this nefarious traffic, at once and forever. Milk from animals that spend most of their lives in stables is bad enough, but add to this a continuous life in a space three feet by ten feet, never leaving it even for a moment, taking no exercise, breathing over and over a filth-soddened atmosphere, until their lungs become diseased and their bodies heated by a consuming fever—could any device of man or fiend be contrived which would sooner or more effectually depopulate a community?

I would most earnestly recommend that an appeal be made to His Excellency the Governor and to the Legislature of this

State, to take such measures as will abolish this business, which numbers among its victims thousands of children every year and which is a disgrace to any civilized community. Respectfully.

J. H. RAYMOND, M. D.,

*Sanitary Superintendent.*

BROOKLYN, February 7, 1879.

DEAR SIR—From the examination made on the 5th inst. of animals found to have coughs, others without, as far as I could discover, and to general appearances healthy, but from the elevated temperature (averaging 102 degrees Fahrenheit, or 3 degrees and a fraction above the normal) showing them to be diseased, I doubt if there are many, if any, healthy or sound animals in the stables—Gaff, Fleischmann & Co.'s. On physical examination of the chests of different animals I found lesions, of different lung stages, of pleuro-pneumonia of mild form—viz., of respiratory murmur, with marked dullness on percussion, showing solidification of the part; others with the above symptoms, to which was added the pleuritic friction sound. Some of the animals are already affected with the disease, as shown by positive symptoms. Others have, no doubt, the seeds of it in their systems, are incubating it, and, I may add, are in the best possible condition from "their want of hygienic surroundings to speedily develop it."

The stables are foul, badly ventilated and badly lighted, except when the doors are opened, and a draught, consequently, created. Animals placed as they are become unfitted for human food, and their products, as milk, etc., can but be detrimental to health if used. With regard to the condition of these cattle as affecting the exportation of stock from this country I have to say, the principal danger from the disease is to the people in our vicinity from diseased milk and meat. There is little or no danger to foreign countries, as cattle from distillery stables are not bought for exportation, the breed usually not being good enough for stock purposes, and cheaper cattle could be bought, and "those in much better condition to stand a sea voyage," than the over stimulated and bloated cattle of distillery stables. The shrinkage would be too great and the losses also. There need be apprehended no dangers abroad from such sources.

Very respectfully,

ALFRED LARGE, M. D.,

*Consulting Surgeon to Board of Health.*

The milk from some of these Cows was submitted to Dr. J. A. McCorkle, Chemist of the Board. The following is his report :



*Dr. J. H. Raymond, Sanitary Superintendent :*

SIR—I have the honor to submit the following as the result of an analysis made by me of the four specimens of milk received from you from the Blissville cow stables :

Specimens.	No. 1.	No. 2.	No. 3.	No. 4.
Water.....	85.74	86.10	84.57	89.97
Butter.....	4.40	5.18	4.39	.68
Caseine.....	6.62	5.10	7.60	5.14
Sugar.....	2.48	3.01	2.58	3.40
Salts.....	.76	.61	.86	.81

No. 1 was taken from cow with temperature of  $102\frac{2}{5}$  degrees Fahrenheit, with cough, dullness from pleuritis of left lung.

No. 2 from cow  $3\frac{1}{2}$  months in stable, producing one quart daily ; temperature 102 degrees Fahrenheit ; no solidification ; weak respiratory murmur on left side ; cough.

No. 3. Cow with temperature of 102 degrees Fahrenheit ; cough ; dullness on percussion over left lung ; weak respiratory murmur on right side.

No. 4. From a cow considered in excellent health.

Respectfully submitted,

J. A. McCORKLE, M. D.

The attention of His Excellency, Governor Robinson, having been called to the existence of pleuro-pneumonia, in Blissville and elsewhere in the State, the following action was taken by him :

STATE OF NEW YORK, EXECUTIVE CHAMBER, }  
ALBANY, February 12, 1879. }

*General Marsena R. Patrick :*

SIR—In pursuance of the provisions of the act, chapter 134, of the Laws of 1878, entitled “An act in relation to infectious and contagious diseases of animals,” I hereby designate and appoint you as my assistant in executing my duty under the said act, and in carrying out its provisions.

It has been made known to me that the infectious and contagious disease among neat cattle called pleuro-pneumonia has been brought into and exists in various places in the counties of Kings and Queens in this State. You are therefore directed, as such assistant, to prohibit the movement of cattle within said counties, except on license from yourself, after skilled examination under your direction. You are also directed to compel all owners of cattle, their agents, employés or servants, and all veterinary surgeons, to report forthwith to you all cases of diseases by them suspected to be contagious. When such notification is received, you are directed to have the cases

examined, and to cause all such animals as are found to be infected with the said disease, destroyed and buried with slashed hides. You are directed, further, to quarantine all cattle which have been exposed to the infection of said disease or are located in an infected place, but you may in your discretion permit such animals to be slaughtered on the premises, and the carcasses to be disposed of as meat, if upon examination they shall be found fit for such use. You will forbid and prevent all persons not employed in the care of the cattle there kept from entering any infected premises. You will likewise prevent all animals and fowls from entering such premises. You will prevent all persons so employed in the care of animals from going into stables, or yards, or premises where cattle are kept other than those in which they are employed.

You will cause the clothing of all persons engaged in the care, slaughter or rendering of diseased or exposed cattle, or in any employment which brings them in contact with such diseased animals, to be disinfected before they leave the premises where such animals are. You will prevent the manure, forage and litter upon infected premises from being removed therefrom, and you will cause such disposition to be made thereof, as will in your judgment best prevent the spread of infection. You will cause all buildings, yards and premises, in which said disease exists or has existed, to be thoroughly disinfected. You are further directed, whenever the slaughter of diseased or infected animals is found necessary, to certify the value of the animal or animals, so slaughtered at the time of slaughter, taking account of their condition and circumstances, and to deliver to their owner or owners, when requested, a duplicate of such certificate.

Whenever any owner of such cattle or his agent or servant has wilfully or knowingly withheld, or allowed to be withheld, notice of the existence of disease upon his premises or among his cattle, you will not make such certificate. You are further directed to take such measures as you may deem necessary, to disinfect all cars or vehicles or movable articles by which contagion is liable to be transmitted. You are also to take such measures as will secure a registry of cattle introduced into any premises in which disease has existed, and to keep such cattle under supervision for the period of three months after the removal of the last diseased animal and the subsequent disinfection of such premises. You are further authorized and empowered to incur such expenses in carrying out the provisions of the foregoing order as may in your judgment be necessary, and to see to it that the bills for such expenses be transmitted to this department only through yourself, after you have examined and approved them in writing. L. ROBINSON.

By the Governor—D. C. ROBINSON, *Private Secretary*.



General Patrick at once took the matter in hand, and issued the following circular :

OFFICE OF THE BOARD OF HEALTH,  
MUNICIPAL DEPARTMENT BUILDING, }  
BROOKLYN, Feb. 14, 1879. }

*To all Veterinary Surgeons and all Owners of Cattle, Their Agents, Employés or Servants, in the Counties of Kings and Queens :*

Having been appointed by the Governor, his agent for the enforcement in the counties of Kings and Queens, of the provisions of chapter 134, of the Laws of 1878, entitled, "An act in relation to infectious and contagious diseases of animals," by virtue and in pursuance of said act and the rules and regulations made by His Excellency thereunder, and in accordance with his directions, I do hereby require that all owners of cattle, their agents, employés or servants, and all veterinary surgeons, shall report forthwith to me at the office of the Board of Health, of the city of Brooklyn, all cases of disease among cattle in either of said counties known or suspected by them to be of an infectious or contagious character. And by virtue of the said authority, the movement of cattle in any part of said counties is also prohibited and forbidden, either from any landing place or dairy to a place of slaughter, or from one dairy to another, or to any dairy or slaughter house, except upon a permit granted by myself after the examination of said cattle has been made in such manner as shall be directed. All cattle intended for slaughtering in the city of Brooklyn will be landed at the foot of North Ninth street or at the foot of Gold street, and moved from these landings only on a permit from this office. Landing places for milch cows will be designated and made known as soon as the proper arrangements therefor can be made.

Whenever notification is received at this office that any cattle are sick with a contagious disease, an inspection will be immediately made, and all proper steps will at once be taken to arrest and prevent the spread of said disease. Inasmuch as these diseases may be conveyed by persons from the sick to healthy cattle, all persons employed in the care of cattle that are well are forbidden to go in stables or upon premises that are infected, or where cattle that are sick with a contagious disease are kept ; and likewise persons employed in an infected stable are not permitted to go among well cattle or upon any premises where well cattle are kept.

Where cattle have been exposed to infection their owners will be allowed, under proper restrictions, to have them either slaughtered or quarantined. If slaughtered, their meat will be examined, and if proper for human food, may be disposed of as such. When quarantined, it must be done entirely under the direction and control of this office.

When diseased animals are reported to this office, as above required, and are thereafter ordered to be slaughtered, a certificate of their value will be made for transmission to the Governor, and a duplicate thereof given, if required, to the owner. No such certificate will be given, however, in the case of any diseased cattle, that may be found not having been reported to this office as required.

Attention is called to the fact that any violation of or refusal to comply with any of the provisions of the said act, or of the rules, regulations and orders made under it is made a misdemeanor, and subjects the offender to a fine of \$250 and imprisonment for one year.

It is to the interest of all slaughterers of cattle, cattle dealers and dairymen, that the contagious disease now known to exist among the cattle of this locality shall be eradicated as soon as possible, and therefore the earnest co-operation of all such parties is confidently asked that the unrestricted traffic in this most important part of the Commonwealth's commerce may be re-established at an early date.

M. R. PATRICK.

From this time until August 27, 1879, General Patrick and his staff were actively engaged in efforts to control the disease and prevent its spread. From this latter date to May 1, 1883, when all work ceased, quarantine was kept up, and a few cattle slaughtered. To-day, as will be seen by reports which I shall read, this disease prevails to an alarming extent, not only in this city, but in the rural districts beyond our borders, and, as I am informed, in some of the river counties, and, indeed, in other States than our own. So widely diffused is it, in fact, that no efforts on the part of any local authority can be more than palliative; and if contagious pleuro-pneumonia is to be eradicated, measures must be adopted which will be generally applied to every infected centre in the United States. What these measures should be I am not prepared to say, and the object in view, in calling this conference, was to discuss the issues with the hope that we might, before adjournment, frame resolutions which would be both practical and judicious.

In order that the matter may be succinctly before you, I will read the following reports:

DEPARTMENT OF HEALTH, }  
BROOKLYN, 26th May, 1883. }

*Commissioner Raymond, Department of Health, Brooklyn :*

SIR—As requested by you, I have lately begun to make a veterinary and sanitary inspection of the cow stables in Brooklyn, and beg to report that, so far, I have found many of

these stables containing diseased animals, principally being affected with contagious pleuro-pneumonia which still prevails to an alarming extent among the milk producing cows of this city ; in fact, the indications are that it now exists to a greater extent than it has for a number of years. I may quote the following instances as showing the diversified area of its location within the city limits :

*First*—J. H. Walton, 1059 Flushing avenue, six cows, one affected with acute contagious pleuro-pneumonia, temperature 104 degrees Fahrenheit, giving from two to three quarts milk daily.

*Second*—F. Gerhart, Van Cott avenue, fourteen cows, two acute contagious pleuro-pneumonia, temperatures 104 degrees Fahrenheit, one of which recently aborted and had retention of the placenta.

*Third*—Mr. Dobbins, Penny Bridge, forty cows, five with contagious pleuro-pneumonia, temperatures varying from 103½ degrees to 106 degrees Fahrenheit.

*Fourth*—Mr. Troutman, Flushing avenue, twenty-three cows, two contagious pleuro-pneumonia, temperatures 106 degrees Fahrenheit.

*Fifth*—Mr. Shiroff, Forty-second street, near toll-gate, fourteen cows, four with acute contagious pleuro-pneumonia.

*Sixth*—James Flynn, back of Greenwood, six cows, two contagious pleuro-pneumonia ; this gentleman states that he has lost twenty-three cows from this disease from the 1st of January to this date.

*Seventh*—John Wilhelm, Kingsland avenue, five cows and one calf. The calf three weeks old is affected with contagious pleuro-pneumonia, showing a temperature of 104½ degrees Fahrenheit.

*Eighth*—R. McDonald, 208 India street, twenty cows, five contagious pleuro-pneumonia, temperatures varying from 104 to 106 degrees Fahrenheit.

As by your instructions, the owners in all cases have been warned, that the milk of such animals must not be used.

The milk and flesh obtained from cows, such as the above, suffering from a zymotic disease, and showing temperatures as high as quoted, cannot fail to be highly injurious as an article of diet.

In many instances, I have found the animals supplied with water obtained from wells, sunk on the premises, and into which naturally a large quantity of the stable sewerage percolates—the milk cans as a rule being cleaned by water procured from the same source, and I know of instances where the milk from such herds has been put up in cans, specially for the use of infants and invalids.

I have reason to believe, that many of the dairies immediately

beyond the city limits, from which much of our milk supply is obtained, are largely affected with contagious pleuro-pneumonia.

In conclusion, let me state that in a long experience, I have never known a city where the *local* milk supply is derived from so many diseased animals.

Respectfully,

L. McLEAN, M.R.C.V.S.,  
*Veterinary Inspector.*

DEPARTMENT OF HEALTH, }  
BROOKLYN, October 18, 1883. }

*Commissioner Raymond, Department of Health, Brooklyn :*

Agreeably to your instructions I have inoculated, as a protective against contagious pleuro-pneumonia, a large number of cattle in various parts of this city. In the cases of one-hundred and thirty of these, sufficient time has now elapsed to enable me to state that we have demonstrated the efficacy of this principle, and that the operation does confer immunity from an attack of the true disease, as in no instance has any animal operated upon contracted contagious pleuro-pneumonia, although they have been stabled in places where this disease has been prevalent and where non-inoculated animals have succumbed to its effects, as illustrated in the following cases :

Mr. Wharry, 906 Putnam avenue, whose premises have been, to my knowledge, for a long time an affected centre, and who had lost several cows during the month of May, purchased eight fresh cows in July, and which were at once inoculated, the operation showing satisfactory results, took in two fresh cows and one bull in August, placing them in the same premises, and neglecting to have them inoculated. One of the cows and the bull have shown symptoms of contagious pleuro-pneumonia, and died; the remaining fresh cow was inoculated, and has so far been exempt from any attack of the disease, the eight originally operated upon resisting the contagious influences of the affected animals, and remaining healthy.

Mr. Gibney, near Greenwood, had an acute outbreak of contagious pleuro-pneumonia among his stock of thirty-six cows, losing four immediately prior to their being inoculated, when I operated upon thirty-two, the result being that the spread of the outbreak was checked. Since then he has introduced four fresh cows into his stock, which were at once inoculated, and the entire herd has remained healthy up to date, although surrounded by all contagious influences.

Mr. Davies, 937 St. Marks avenue, stabling his stock in infected premises, had his cows, including six fresh animals, inoculated in July, all recovering from the operation satis-

factorily. During September, he took in four fresh cows, which were neglected to be inoculated; one of these contracted contagious pleuro-pneumonia, the remaining three were operated upon, and are to-day, with those originally inoculated, in a healthy condition.

Mrs. Savage, 99 Ralph avenue, whose premises have been an infected place, had six fresh cows inoculated in July, since which the stock have remained healthy, although a number had recently died in the same premises.

Out of the entire number inoculated, two have died, one from the results of the operation, the other from a complication, which, had proper attention been given to the details, could have been avoided, up to twenty days after the operation, the animals requiring close attention, and possibly surgical treatment.

That the disease is alarmingly present among the milch stock of this city is now becoming more evident, since the cattle have begun to be housed for the winter, while the simple promise of the owner that the milk from affected animals would not be used, I have sufficient reason to believe is frequently violated, especially in cow stables situated beyond the jurisdiction of the city.

That some concentrated action should be taken to eradicate the evils arising from the present diseased condition of the milk producing stock of the city is apparent, and inoculation, which I believe to be the remedy, to be effectual, must be compulsory.

Allow me to acknowledge the valuable assistance and advice I have received from Dr. Bartley in connection with inoculation.

Respectfully,

L. McLEAN, M.R.C.V.S.,

*Veterinary Inspector.*

DEPARTMENT OF HEALTH, }  
BROOKLYN, December 26, 1883. }

*J. H. Raymond, M. D., Commissioner Department of Health, Brooklyn :*

SIR—In this, my annual report as Veterinary Inspector to your Board, I beg to particularly draw your attention to the continued and increasing prevalence of contagious pleuro-pneumonia amongst the milch cows of the city, and the immediate surrounding district, with the hope that you may be able to bring some concentrated action to bear, to stamp out a disease that is financially ruining those who are locally engaged in the trade, supplying our families with unwholesome milk, and many of our butcher shops with beef, if not directly dangerous, certainly in the highest degree non-nutritious.

My official capacity as Veterinary Inspector to your Board during a number of years, and my active connection with the commission appointed by Governor Robinson in 1879, under



General Patrick, enables me to speak with a practical knowledge of the actual state of matters down to date; and I consider that it may be safely stated that there is in the Union no other city of the same extent, in which the milk-producing stock is so extensively affected with contagious pleuro-pneumonia.

The introduction and history of this disease in Brooklyn may be briefly stated as follows :

Peter Dunn, who, in 1843, kept a cow stable in the vicinity of what is now Hamilton Ferry, purchased a cow off a vessel arriving from some port in Holland. This animal shortly afterward developed contagious pleuro-pneumonia and died, infecting the other cows in the stable. He, becoming alarmed at the mortality among his stock, disposed of the balance as best he could.

We next hear of it as almost decimating some of the large distillery stables in this city, and from this focus it has spread over almost every section of this island. Indeed, from this, comparatively speaking, germ, can be traced the origin of contagious pleuro-pneumonia in the United States.

In this neighborhood the disease continued to spread, no official action having been taken to check its progress, until Governor Robinson's attention was drawn to its prevalence in this city in general, and the Blissville district in particular, in a communication from you, as Sanitary Superintendent of the Brooklyn Board of Health, in January, 1879, the result being the appointment of a commission, of which General Patrick was the head, with Professor James Law, of Cornell University, as its veterinary adviser.

Upon investigation by this commission, the identity of the prevailing disease with contagious pleuro-pneumonia was satisfactorily established, and many proofs of its widespread existence obtained. The policy adopted by them was that of slaughtering the affected animals, quarantining and disinfecting the stables in which affected cases were found, and strictly prohibiting the system of inoculation.

In carrying out these measures, thousands of dollars were expended and many animals destroyed during the three years existence of this commission, with only directly negative results, in so far as the permanent control of contagious pleuro-pneumonia in Brooklyn was obtained.

Considering the lengthened and tenacious hold this disease has secured in this district, and the exceptional local conditions, along with the indefinite latent period of contagious pleuro-pneumonia, no other result could have been anticipated from such a course.

There are, sir, about 5000 head of milch cows, contained in about 450 stables, within and just outside the limits of this city. Ten per cent. of the former are affected in one or other of the various stages of this disease, and at least eighty per cent. of the

stables are of themselves permanent centres of contagion, and that beyond the control of disinfectants.

The experience of foreign countries, and the recent investigations of so-called contagious pleuro-pneumonia, as well as other contagious bovine diseases, have fortified the hands of sanitarians in their efforts to control their spread, and have enabled them to view their importance and ætiology in a clearer light.

I consider that the term contagious pleuro-pneumonia, in its application to this disease, is a misnomer, and that its character would be more intelligently comprehended in defining it as a zymotic bovine lung-fever, the fever being the disease and the pulmonary complications the sympathetic features. In my opinion, there are three distinct periods in its progress—viz.: the latent, incubative, and special appointing—and by giving due consideration to these three stages, you can better comprehend the necessity of careful measures in effectually dealing with this pest. During the first of these stages, as the name implies, the germ may be lying latent in the system, and this for an indefinite period, ranging from four days to four months, during which the most critical examination will fail to detect in the animal anything abnormal. The second or incubative period is characterized by the presence of general febrile symptoms, while the third stage exhibits the pathognomonic pulmonary lesions. That due weight has not been given to the often protracted first or latent period, and to the tenacious vitality of its germ, must be ascribed the non-success of many of the efforts hitherto in vogue, while attempting to eradicate the disease both here and in other countries.

As to remedial measures. Experience has taught us that there are but two courses which can be taken in meeting or controlling this scourge—viz.: the slaughtering process, and that of inoculation—and the relative merits of these different measures, in their applicability to Brooklyn, can be briefly stated as follows :

Taking the latent period of this disease into consideration, it will be at once apparent that, if the slaughtering process is to be adopted, not only must the acutely affected animals be destroyed but also all those who have cohabited with them, and *that, on the premises they occupy* ; but further, we find that a majority of the cow stables in this city are frame buildings, having wooden floors, many in a decayed condition, which, with the surface soil, have become thoroughly saturated with the germs of the disease; hence they are beyond the power of disinfection, and to thoroughly stamp out the disease by this process would necessarily entail the entire destruction of the various stables as well as their occupants.

So many of these stables being known centres of contagion, who is prepared to pay this enormous outlay? As I consider that, in this city anything short of this would be a waste of

money, especially seeing that it would at the same time completely paralyze this branch of business. In every place where the disease has obtained such a stronghold, and the centres of contagion are so numerous as here, the slaughtering process has proved a practical failure.

The second course left to you, that of inoculation, has, for at least eighteen years, been practiced in a rude form by the individual cow owners of this city, and I believe with results satisfactory to them. Inoculation, although surrounded with many difficulties and some objections, is now admitted to be an effectual prophylactic measure, and is advocated by such men as Fleming of England, Willems of Belgium, Mitchell of Australia, and Law of Cornell University. And its practical benefits have been proved beyond a doubt by Rutherford of Edinburgh, who has in that city, during the last few years, successfully operated upon upwards of 4,000 milk cows, and thus, after the slaughtering process had proved a failure, has succeeded virtually in clearing the Scotch metropolis of this pest that had defied all other efforts for thirty years. It would seem to me that where the disease has existed so long as it has in this city, that this course is much the preferable one, not only from a scientific point of view, but also from that of economy. Our own experience, as shown by my report to you in October, substantiates this assertion, and I have since then inoculated a considerable number with equally satisfactory results. All my subjects were in highly contaminated premises, and none of them, although still occupying the same, have shown any symptoms of contracting the disease, although in several instances where fresh cows were introduced, and not protected by inoculation contagious pleuro-pneumonia has been contracted and the animals have died.

But to derive the full benefits of the principle it must be made obligatory and systematic, many of its details requiring to be scrupulously attended to. So far, under your instructions, my efforts have been devoted to establishing the efficacy of the principle, and have been hampered by the limited authority of your Board. In this consideration of inoculation, as stated above, I have viewed the subject as a matter affecting this local district which, from its geographical position, presents the elements for almost perfect isolation and quarantine, and the exportation of live cattle from this island being almost nil, even its entire prohibition, if necessary, would entail no serious loss. Seeing that much of the milk supply of this city is derived from dairies situated immediately beyond the limits of your jurisdiction, such as in Blissville, Ridgewood, East New York, Flatlands and Flatbush, and which are known to be districts highly infected with Zymotic Bovine Lung Fever, it will be necessary to at least bring them under the same strict supervision that is being given to the s tables located in Brooklyn.



The eradication of the disease in the United States would demand the action not only of local authorities, or even State boards, but also the energetic efforts and supervision of the national government. And while I thus advocate the adoption of inoculation to meet *our* local condition, in recently invaded districts and isolated cases, its extirpation can be more radically effected by the slaughtering process carried out in its entirety.

In support of the above views allow me to quote from an article by George Fleming, LL.D., F.R.C.V.S., of London, a sanitary veterinarian second to none, who says: "There is at length a prospect of release from the ravages of one of the most serious scourges that ever visited the bovine population of this or any other country, if the government cares to adopt those measures which have now been proved to be completely efficacious in extinguishing it. Contagious pleuro-pneumonia still lingers in these islands, and will continue to do so in all probability until the end of time, unless its insidious contagiousness and protracted latency are fully recognized, and the utility of inoculation as a protective measure fairly acknowledged and resorted to when necessary. The mere slaughter and isolation of diseased centres for a short time, as is at present carried out, will not extinguish the scourge. The evidence in support of protective inoculation is now too serious to be sneered down, or made the sport of small witlings who joke about 'pleuro-pneumonia in the tail.' It is curious that while certain authorities have done their utmost to discredit inoculation, they have never attempted to explain, if they understood, its phenomena. There can be no doubt that when properly performed, and when all due care is exercised, it is as protective, if no more so, than vaccination is of human variola; that the morbid process set up as the result of inoculation is specific, and is not witnessed, so far as we can ascertain, in any other than the bovine species, and that the entire organism appears to be affected.

"This pitiless and continued slaughter of diseased cows, and the terrible embarrassment to agriculturalists which the present fruitless measures produce, will soon become little short of a crime, in presence of the absolute immunity and humanity which are the attributes of protective inoculation."

Respectfully submitted,

L. McLEAN, M.R.C.V.S.

*Veterinary Inspector.*

CHAIRMAN—The subject has been opened, gentlemen, by these reports and communications, and we should be very glad to hear from any of you on the subject.

PROFESSOR JAMES LAW—Mr. Chairman, I am very glad to have the opportunity to lay my views on this matter before

this assembly. I trust that by an interchange of views we shall reach something tangible in regard to inoculation. Dr. McLean, I think, is quite right in claiming that inoculation is protection, and I prefer it where we can't do better. Inoculation will save the inoculated individual. I have held for twenty years that the inoculated animal is protected, as a person inoculated with vaccine is protected against small-pox. But the vaccine is not small-pox, and will not spread the germs of small-pox. In pleuro-pneumonia inoculation protects the individual as surely as vaccine. But it spreads the disease, no matter whether injected in the tail or any other part of the connective tissue. This question was up before the recent Congress of Veterinarians from the different countries of Europe, meeting at Brussels in September last. Dr. Willens, the originator of inoculation, brought the subject up to obtain an expression of opinion on the part of the Congress, that no inoculated animal could transmit the disease to another animal. But the better judgment of the meeting triumphed over him, and expressed itself unequivocally that there was no proof that an inoculated animal had never transmitted contagious pleuro-pneumonia to another uninoculated one. Such was the opinion by over two-thirds of the vote at the International Congress. As a matter of hard, common sense, I hold that it must propagate it, for it is only as we produce the disease—the germs—in the tail, that we can confer immunity. As I have stated in my letter, I found in Edinburgh and in South Holland, where inoculation is practiced universally, that cases have occurred. They might not show themselves in an acute form—only in a latent form—but they show themselves when they go to the slaughter houses. Two cases occurred in Edinburgh when I was there—two cases showed themselves in the acute form, but commonly they showed themselves in the occult form. Now, in this respect, that it often appears in an occult form, lung-plague bears a close relationship to glanders in horses, and tuberculosis in animals generally. It is perfectly true that glanders is not so infectious, and will not infect at so great a distance; but that makes the occult cases of the lung-plague all the more dangerous. When it shows itself in the occult form it is not readily recognized, and is often passed over without notice. Often when cattle are brought to the slaughter house, this occult form is discovered by opening the chest; a portion of the lungs show unmistakable signs of pleuro-pneumonia. So it is with glanders. We can take out of a stud all the prominently glandered horses, but we have got to watch the stable for a year or more if we want to

extinguish the glanders. We have got to make a post-mortem examination of every animal that dies, and to watch the stable for a year or more, to find out if the disease has persisted. There is necessity in pleuro-pneumonia not simply of inoculation, which is only a temporary measure, but for continuous restraint upon the herd in which the disease has once shown itself. Indeed, it was recommended by the committee appointed to introduce the subject to the International Congress, that cattle, or a herd of cattle, that had once been affected should have no destination but that of the slaughter house. Similarly it was sustained that inoculated animals should have no other destination but the slaughter house. I am sorry to say if we study the action of that Congress we are compelled to admit that they were aiming rather at suppression than extinction. So it is in England. The orders of the Privy Council say that when cattle in transit are found suffering from pleuro-pneumonia, the affected ones only should be sent to the slaughter house, while the others are allowed to go on to their destination. Nothing could be more absurd. It shows that the measures aim mainly to be restrictive. They acknowledge that they are not prepared to proceed with a policy of absolute extinction. When they come to that they must go the length of shutting out all cattle from a country, which the Privy Council is not satisfied is free from pleuro-pneumonia. Now, in view of this, I don't think that any method of inoculation—and I acknowledge it freely, of the method that was referred to in my letter—my own—I don't think that any is satisfactory—is radical enough. We want something more radical and satisfactory. We are every year losing \$3,000,000, while half that sum would pretty certainly stamp out this disease. It is most unreasonable that we should go on bearing such losses if this can be done. We know perfectly well that every case of vaccination does not protect against small-pox, and that every case of inoculation will not protect against contagious pleuro-pneumonia. If we had to deal with a disease like the small-pox, which shows itself by unequivocal lesions, then inoculation would give a surer protection; but pleuro-pneumonia is not always apparent, and is not often recognizable except to the more critical observation, which these cattle do not receive. In view of that, I am not prepared to favor inoculation. We will have the disease, prevalent as it is now, in New York, Brooklyn and the adjacent cities, until we can get some complete measure of extinction. Do all you can with inoculation till then. I would not leave a hoof where the infection has shown itself. It would be economy to destroy

the buildings, rather than to let this thing go on. I am sorry—almost sorry—that man is not subject to the disease, because we would have another argument in favor of doing away with it. Now, I do not see why Boards of Health should not institute a system, and control this so that no animal should be allowed to pass out of a stable in an infected city or district except by permit. In case that any infection has been known within six months, or when a fresh animal has entered the stable in that time—this permit should be only to the slaughter house, and when the animal is slaughtered, it ought to be examined by an expert. One great question comes in the matter of indemnity for the animal slaughtered. This ought only to be paid to the person who gives up his animal, and I am convinced ought to be paid by the United States Government. It may be made the duty, the obligation, of the city Boards of Health to pay for the animals slaughtered, on the basis of the protection of the public health, but we ought to obtain from the Federal Government a sufficient appropriation to pay liberally for the cattle slaughtered with pleuro-pneumonia or tuberculosis. This would take away many objections of owners of cattle, and lead them to report cases. It would make the work easy; but they should not be depended upon. Our city milkman makes more from a cow in the full flush of milk, than he is likely to receive from the sale of the animal. If he can run that cow in the full flush of milk, it will pay him to do so. The city milkman should be particularly well remunerated. Even the full value may not be enough. We should encourage him to make reports. It is not that the animals are of this value; they are really of no value—they are injurious. The point is to secure from the owner the earliest possible report. A provision of this kind would soon approve itself to the owners themselves. They would see you were working in their interest, for you are both giving them indemnity and protecting them against future loss. I believe in the cities the work should be proceeded with against pleuro-pneumonia and tuberculosis at the same time. In any case, there should be kept a census of all the animals. There may be a cheap method, perhaps. Cheaper employes may mark and record the animals in herds, while veterinarians make post-mortem examinations and diagnose cases of sickness. This rigid control of the individual herd is what they are coming to in Europe. They found their other methods proving fruitless. You must keep a record. It is the only system that can be relied upon. Our methods here were never supported, and that is the great cause of the work here

in Brooklyn being a failure. In New York we managed to restrain the movements of herds, and we got to the point almost of extinguishing the disease. We had some three or four infected centres left there, when a lack of cash and official support stopped us. So long as you let the free movement of cattle go on, so long will the disease be likely to propagate itself.

CHAIRMAN—What is your opinion of the effect of pleuro-pneumonia on the meat and milk?

PROFESSOR LAW—There is no doubt, it impairs the value of both. The animal cannot be in the condition of fever in the acute stages without having the milk largely modified.

CHAIRMAN—What of the meat?

PROFESSOR LAW—It becomes literally soft meat. When the gangrenous masses have appeared in the lungs, then, of course, the condition of the meat is such that no one would think of using it. In its earlier stages, however, it is not known to produce any injurious effects upon man.

DR. J. W. GADSDEN—Mr. Chairman, I am requested to read the following letter:

U. S. DEPARTMENT OF AGRICULTURE, }  
VETERINARY DIVISION, }  
WASHINGTON, D. C., Jan. 4, 1884. }

*Dr. J. W. Gadsden, Philadelphia :*

MY DEAR DOCTOR—I cannot attend the Brooklyn conference owing to press of work. I hope you will go, and I will authorize you to say for me, should the question of inoculation be brought up for discussion, that I have no confidence in this operation as a means of exterminating pleuro-pneumonia. That while it undoubtedly renders a large proportion of the inoculated animals insusceptible, if properly performed, it just as certainly keeps up the infection of the stables and grounds.

If any satisfactory bill is introduced I will let you know.

Very truly,

D. E. SALMON.

CHAIRMAN—What is your opinion of the effect of this disease on the meat and milk?

DR. GADSDEN—I should think, from what I have read and know, that it is less nutritious but not poisonous. I believe, with Professor Law, it would be a good thing if we could give some human being the disease, and then measures would be



taken to stamp it out. I have heard of people drinking the milk and eating the meat without any injurious effects.

CHAIRMAN—Suppose the milk was taken from the animal while in the febrile stage?

DR. GADSDEN—I should think it would be very injurious without boiling, but I have no proof it has produced disease. I would not like to drink it myself.

PROFESSOR LAW read the following extract from a report of the action of the International Congress of Veterinarians :

*Action of the International Veterinary Congress at Brussels,  
September 17, 1883, on Tuberculosis.*

“ In order that the flesh and viscera of an animal should be allowed to pass into consumption, it is requisite that the disease should not have advanced beyond its initial stage ; that the lesions should be still confined to but a very small part of the body ; that the lymphatic glands should still be free from any morbid lesion of tuberculosis ; that no tuberculous centres should have yet undergone softening ; that the flesh shall present the characters of meat of the first quality, and that the general state of nutrition at the time of slaughter should be first class.

“ The meat of tuberculous animals admitted to consumption by man should be withheld from shipment outside the locality where it is slaughtered, and from being offered for sale in an ordinary butcher’s stall.

“ Every quarter of beef and all viscera showing lesions of tuberculous transformations, and the meat of any other animal in which there is found at the autopsy a tuberculous infection more pronounced than that above referred to, should be sprinkled with petroleum and then buried under police supervision. The extraction of fat by heat and the sale of the skin may be authorized.

“ The inspection of every beast attacked by tuberculosis should be made by a veterinarian, who alone should decide if the meat can be sold for food.

“ The milk of animals attacked with tuberculosis, or suspected of it, should not be used as food for man nor for certain animals. The sale of such milk should be strictly prohibited.”

It is reported in the vital statistics of New York that twenty per cent. of the adult male population died of tuberculosis. Some herds supplying milk to New York make even a worse showing than the human population. This is bad enough, but there are examples in the state that make a far more terrible showing than this. I think the day is upon us when we must

take active measures against tuberculosis and pleuro-pneumonia.

DR. GADSDEN—I would like to say one word about the process in Pennsylvania by slaughter. The law was brought into operation in 1879. It was uphill work. Every one was against it. The veterinarians and farmers were against it; but it succeeded, and just previous to last August they considered the State free from the disease. I know of no case, and there are none reported. Had there been any, they would have been reported, as we are paying \$40 for each animal slaughtered. The disease came to us from Baltimore through an affected cow. We had several cases that year, but we believe now that we are clear of it. If this inoculation is to be followed up, I hope there will be some law to prevent the sending of cattle into other States from here. We don't want them in Pennsylvania, and I am sure others don't. If you can pass them in your own State, all right; but it will be a hot-bed of the disease and a pest. You are bad enough now, but it would be worse then. You would be protecting the cattle owners, but it would be terrible on the other States. Then, too, the exportation of American cattle to Europe demands that it should be stamped out. If you don't do that the prohibition order will issue, and once that is done, you will never have it changed until you have stamped it out. You have no idea of the number of cattle that are in the Western country ready to be shipped to England, and if we are prohibited from shipping them it will ruin us.

Before taking my seat, I should like to call attention to the views held by some of our best authorities:

"Professor Walley, Edinburgh, in his valuable work, 'The Four Bovine Scourges,' when on 'Contagious pleuro-pneumonia' (after over seven pages on inoculation), at page 60, says: 'In its suppression—slaughter, isolation, and external and internal disinfection can alone be relied on, with arrest of all movements to and from infected districts.

"Professor Law, in his valuable book, 'The Lung Plague of Cattle,' page 79. 'Inoculation must be absolutely condemned whenever a speedy and effectual stamping out of the disease is desired. No country has ever succeeded in exterminating this plague by practicing inoculation.'

"Report of the Treasury Cattle Commission on the Lung Plague of Cattle, or contagious pleuro-pneumonia, page 56: 'Inoculated animals infecting healthy ones,' giving several instances—the advocates of inoculation mostly assume that the inoculated animal is not infecting, but such a claim, if it could

be established, would demolish their cherished theory of the protective influence of inoculation; the virus they use for inoculation is the virus of genuine lung plague, and numerous instances can be adduced, in which inoculated animals have proved the centres for new diffusions of lung plague. In Australia and New Zealand, where they inoculate cattle by the ten thousand, records it as a common observation, that the disease is transmitted by inoculated cattle. In South Africa this disease is introduced to a greater or less extent each time of inoculation. At page 57, they say: 'Having established the fact that inoculated animals are infecting,' it is easy to show that a general adoption of this measure must be a most dangerous expedient, the maintenance of the practice of inoculation, even in the infected states alone, implies the permanent preservation of the poison there, and such preservation entails the daily risk of its spread to the West, and thence through all the channels of the cattle trade. In addition to all this, is the fact that the persistence of this disease is the occasion of the continued embargo on our European cattle trade. Page 89; 'Inoculation for lung plague is calculated to largely reduce the losses, but at the expense of a permanent preservation and general dissemination of the virus.' Inoculation has never yet permanently rid any country of lung plague—this together with its expense and the impossibility of making it universal, condemns the measure as a palliation for America."

DR. HOPKINS—I saw a notice of this meeting in the *Herald*. I did not know whether it was to be a public meeting or not, but I took the liberty of attending. I have the honor to represent \$100,000,000 worth of cattle in the West. I have entire sanitary charge of them, and am ready to go anywhere to testify in regard to pleuro-pneumonia. I am convinced that inoculation must propitiate and spread the disease, and we will oppose it with all our power. Better to maintain a masterly inactivity than to begin a plan—than to begin a system—that is only going to spread the disease over the whole country. Inoculation is no protection. If people were to put confidence in the system, and cattle were to be allowed to travel hither and thither without any supervision, the disease would only spread. We, in the West, intend to do all in our power to get Congressional action towards the entire stamping out of the disease. The people in the West are very much interested in the stamping out of the disease, and I have no doubt action will be taken towards that end. To-morrow there will be a meeting in Washington of delegates from the Stockmen's Convention, and I hope this



Board will send suitable resolutions calling for the stamping out of the disease, and not any measure looking to the inoculation of cattle.

MR. WILLIAMS—The only safeguard is inoculation, unless you burn up cattle, buildings and all. My friend here took charge of a neighbor's cattle, and said, "You must fumigate and get rid of the disease." Five cows died. Then the owner said he would take charge of the business; he would inoculate the cattle. Three more cows had pleuro-pneumonia. Then he inoculated. He called me over. I went there and did it in the face of the law. Those three cows that had pleuro-pneumonia died. Eight died out of his head of eighteen. The other ten we inoculated were in good health and have remained so. We've stamped out the disease in his stables. The inoculation I performed stamped out the disease where for two months or more this gentleman had been fumigating. From my experience in my own stable, it is the only way I can get rid of it. I got rid of it in 1868 and 1869, and I have never had the first sign of it since. I have over twenty affidavits from men who have had it, from people who have had experience, and they all say the same thing. There is only one salvation—that is, to inoculate. The State law we have been laboring under—in 1880 and 1881—cost Queens County thousands of dollars, and the State \$140,000 or \$150,000, and the disease never was wiped out until the money was wiped out.

CHAIRMAN—There seem to be two views—a local view and a national view. If pleuro-pneumonia is driven out of the nation, it is, of course, driven out of the locality; while if it is driven out of a locality, it is not driven out of the country at large.

MR. WILLIAMS—When I first had this disease I got it this way; I am well satisfied of it. Eight or ten years previous, the same disease was known in this stable. The man lost his entire stock, and quit the business. After a few years I bought this place. I went in the milk business, and put in my cows. I got along very nicely for the first two years. The old stable was dilapidated, and I built a new one, not on the same spot, but a continuation of the old one at the east end. Then I changed my cows to that stable and tore the old one down. I noticed, when the cattle came out to go to the new stable, they smelled around the old boards, and where we had rolled stones over. They jumped around them and bellowed. In about two or three weeks I found my cattle had pleuro-pneumonia. I believe

they got it from smelling that ground where the old building stood. I believe the disease lay there dormant. I believe in inoculation, and I think that the money spent by the State of New York, did more harm than good.

DR. A. N. BELL—I hardly need say, I have had no practical experience, but I have read a great deal about the disease. I have inquired and studied a good deal, and have come to the very distinct conclusion as to the danger of milk and meat of sick cattle, or any kind of diseased animals whatever. I believe that just so far as you encourage this disease, it is equally true that encouragement is given to the eating of meat and drinking of milk of cattle with pleuro-pneumonia or any other disease; and that just that far it is encouraging the propagation of the disease. Until the people and the owners set their faces against this dangerous food, they will continue to propagate disease, not alone among people, but among cattle. There is no compromise ground about it. People may tell you the meat is not dangerous if you cook it well, and the milk is not dangerous, if you will only boil it enough. What evidence have we of the truth of it? Shall we appeal to the mortality record of our children, and say that two hundred have died in a thousand, that have been fed on this milk? The gentleman who spoke of his local experience, seems to indict the authorities for incubation of this disease. He said that after two or three weeks his cows were taken with this disease after going over this place, and believes that nothing but the burning down of the buildings would destroy it. The point was that there were two or three weeks of incubation. If we take the measures of a kind of quarantine which should exist with regard to the movements of cattle from place to place, so that none should be permitted to place another one in danger, and if it were made a criminal offense to slaughter for sale a diseased animal of any kind, I believe it would do more effective service than any other method. It has been stated, it costs \$3,000,000 to the county to have this disease. I presume there is not a gentleman, but believes that one-half that amount per annum for five years, would destroy every vestige of it in this country. I believe if we undertake to compromise or issue any uncertain sound, it will simply aid in the propagation of the disease.

HON. ERASTUS BROOKS—There are very great popular interests at stake in this matter, as we all feel and know, and they are of special interest to the State Board of Health of which I am a member, and which I am here to represent in

part. I shall, first of all, disabuse my friend of Long Island, with regard to the State law. The State made no such appropriation, as has been named by him, for the stamping out of the disease. I was a member of the Legislature, and voted for the law upon the recommendation of the Governor, and gentlemen connected with the agricultural interests of the State and the consumers in the State, as the necessity of some law for the extinction of this cattle disease was evident. On the evidence before the Legislature, that the disease had been nearly, if not entirely extinguished, in the State of Massachusetts, from like experiments, and from evidence adduced from other parts of the country, the law was passed. It was repealed the past year because of two reasons—the material one of which was, that the persons appointed to examine the cattle disease had failed to discharge their duty in a becoming manner; and on the recommendation of the Governor, the law was repealed. There is a law in existence to authorize the Governor, if he thinks proper, to order an examination of cattle, and to have such report made to him as is necessary. Under our Constitution, no appropriation of money can be used after two years; it must then be returned to the State Treasury. I am impressed with this discussion, and I may say I am beneficially impressed, because as you say there are two views entirely distinct in their character as to the advantages of inoculation, or as to the consequences that may come from it. I understood from Professor Law, when he came to Staten Island, that he was a believer in inoculation. He gave evidence of it in the sense in which it is to-day in practice in the State, in Brooklyn and elsewhere, and therefore when I hear him say that there can be no complete success from a practice of this kind; and when a gentleman from the West says he protests against any form of inoculation, and the gentleman from Pennsylvania makes the same statement; and then find gentlemen who uphold inoculation, and say we must destroy the buildings in which infected cattle have been, I am puzzled. I do not feel able to enter at large upon this discussion. I have seen a great many of the cattle suffering with this lung complaint die; I have seen a great many poor men who have been made to suffer by it, and therefore it is of immense importance to every locality in this State, and particularly to this County of Kings, that some practical measure should grow out of a conference like this, in which there are gentlemen from all parts of the country, who have made a study of this disease, and who have to-day given us the results of their experience. When I heard

the report of your local inspector as to the result of his experience and practice, and when I hear another gentleman state the result of his experience and practice in regard to the theories of inoculation, I must confess they seem to demand that something must be done; but then come the strong views of the gentlemen from Pennsylvania and Wyoming. According to one gentleman, it is better to bear the ills we have, than fly to others we know not of. I hope that some steps may be taken here in the form of a petition—in the form of a resolution—or in some other practical form, to bring this subject to the attention of the Congress of the United States. If it is necessary to stamp out this disease in the summary way suggested, and it may be that it is, then you ought to come to some conclusion upon it. I think it will strike other gentlemen here as it does me; it is possible by vaccination to protect the human body, and to prevent the spread of small-pox, and it is at least within the bounds of human probability, that it may be also possible to prevent the spread of this disease by the adoption of a system of inoculation, which gentlemen of the experience of Professor Law can devise, and by which it loses its contaminating effects. It seems to me we ought to move very slowly and intelligently upon this subject. The question of remuneration for animals taken seems to enter largely into this question. Certainly the value of a diseased cow is depreciated, and I do not see why the owner should not be made responsible for the ownership of such an animal, rather than the public should pay for it. If we apply a principle like this to our own experience with property which we have allowed to depreciate, then we feel as a matter of course bound to take the consequences. It seems to me wise that the State should recognize some remuneration for the person who has in his possession the unclean beast, but it should also make the owner share largely in the consequences of the ownership.

DR. HOPKINS—To many here, in all probability, the *modus operandi* of the work is not known. General Patrick, when he first came into this work, found one of the greatest hot-beds of the disease in Blissville—a swill-milk stable, where there were nine hundred milch cows. He rendered the work exceedingly unpopular in Brooklyn. The work in New York was systematic. A stock yard was provided, to which the sale of milch cows from the country was confined. Dealers were prohibited from keeping cows on sale or peddling them, and a thorough inspection of all the cow stables and dairies was made. An inspector was kept at the offal dock, and an

autopsy was made on all cows brought there that had pleuro-pneumonia. An inspector was kept at the slaughter-houses, and any cows that had pleuro-pneumonia were traced to the stables whence they came. While the money lasted the places were destroyed, and the animals were destroyed. No cattle were allowed to cross the ferries to New Jersey, or to Brooklyn, without special permit. The work in Westchester and Putnam Counties was a perfect success. In Brooklyn the Board of Aldermen made it a total failure, as indemnity was the main chance of success in stamping out the disease. It was better than a cordon of soldiers. If a milkman gets a diseased cow, he is going to sell it to the first man that comes. They are all bought, and can be seen almost any day in the slaughter-houses of Brooklyn and New York. This work was a success—a perfect success. In October, 1879, I was placed in charge of Putnam County, where the disease prevailed. They met in a town meeting, and ordered the supervisors to raise money. The supervisors met next day, and the slaughter went on. The farmers could not remove a cow to the slaughter house except by permit. Quarantine was enforced in Putnam and Westchester Counties. There were only two or three places left where it had not been wiped out, but there was no more money. During Governor Cornell's last term \$30,000 was appropriated, but he would not use it. Then Governor Cleveland came in, and the law was repealed. To-day the disease is as bad in New York and Brooklyn as before. General Patrick began the work, and I know that \$63,000 is the amount spent, and that the work was almost successful. This system of inoculation only palliates the disease. Cattle travel in all directions, and if you inoculate in this county it would do much harm. I am not in favor of inoculation. If you could put your animals on an island and keep them there, I would say inoculate them. If we are to be able to do anything it must be by the eradication of the disease. It can be done in eighteen months with money. Another thing, there is a lack of veterinarians. There are not many of them that are fully posted on pleuro-pneumonia. I think if this conference would introduce a resolution that would induce the Government of this country to make veterinary colleges Government institutions, then we would be striking at the root of the evil. Then we could get qualified men, and that would be the true way to do it. In Chicago I had the pleasure of advocating State action. I don't believe any kind of resolutions to Congress will induce action that will stamp out the disease. The idea of appropriations for boards of health is never going to



be done. If it was it would never be successful. There are too many hands. If we are going to get rid of it we must have State action. The Federal Government should only prohibit the movement of cattle from an infected district, and State action should stamp out the disease. Massachusetts has demonstrated that pleuro-pneumonia can be stamped out. It has been demonstrated in Suffolk, Putnam, Westchester, and New York Counties. The disease can be stamped out, and will be stamped out in eighteen months with continuous action, and with between \$1,000,000 and \$1,500,000. Any action of this conference that is going to look to inoculation I hope will not be done. Dr. Liautard yesterday authorized me to say that he was in favor of stamping out the disease as the only means of getting rid of it. Charles Loring and Dr. Salmon are also in favor of stamping out the disease. If it is to be inoculation in Brooklyn alone it does not make any difference, as the tendency of cattle is towards Brooklyn and not from it. But it will spread, and in time will go to other centers. The effect will be, the West will rise and protest against cattle coming from the East. I have done so, and should do so again.

DR. WHITNEY—Have you found this disease peculiar to the bovine species?

DR. HOPKINS—I have never seen it in any other animal. In the West the people are fully alive to the importance of the question, and I can assure you I can raise you \$3,000,000 in the West to stamp out the disease. Get a law passed, and there will be no question about the money. The Western people cannot afford to have pleuro-pneumonia brought out there, and I have heard them say if it was a question of money they would raise it. Get the law and then go ahead. If you should be successful, give the owners a liberal indemnity. Make them interested. There are hundreds of cow owners and dealers here in New York who will stand by you. I do not believe the flesh of these cows is poisonous, but it is not of the most nutritious character. As to the milk, I have not seen a cow that had pleuro-pneumonia give milk. When the febrile action takes place the milk dries up. In chronic cases I have drank the milk and found no evil effect from it.

PROFESSOR LAW—So far as I know very much was done under the State, but nothing like enough. Owners of cattle were allowed, irrespective of State orders, to move cattle from dairy to dairy. We were simply put to naught. That was the reason, and the principal reason, why Brooklyn did not benefit so much as New York. There were two or three other

reasons. There was the lack of a special bonded market for cows, from which alone animals might enter the city dairies. They got in from all Long Island and from New York, and it was impossible to control the movements of the cows into the city. Another point was that we could not control the cows that went out of the city, could not prevent them going to the country or to the slaughter houses or rendering works. It is very important that you should have full control of the cows that enter and leave the dairies, dead or alive ; you must see all the animals that are slaughtered, and that they are not affected, otherwise the owner can take out the infected ones as soon as they become sick and make them into sausage and conceal the infection. You must examine every cow. In Massachusetts and Connecticut they never had to deal with it like this. They never met the problem you have to meet to-day. They have dealt with the disease as we had it in Suffolk, Queens, Westchester, and Putnam Counties ; there we had no difficulty. In Putnam County, with the co-operation of the people, two weeks stamped out the whole thing.

MR. BROOKS—How was it paid for then ?

PROFESSOR LAW—Officially by the State in the end. When the disease was discovered in the county there was no money in the treasury, but the county commissioners promptly decided to raise it and stamp the disease out. Every herd where infection had appeared was at once slaughtered. There was no holding of herds for months under observation to see the effect of inoculation, no uncertainty of results, no suspicion of dairy products. I would like to repeat here, that vaccination for small-pox is different from inoculation for pleuro-pneumonia. In one case you propagate a different poison that cannot produce small-pox. In the other case you propagate the poison that can produce the disease itself. That is the difference, and where the danger lies. You save some thirty per cent. of a herd by inoculation, but that is not the question. In looking at the matter from a national standpoint, we are looking for the opening of our trade with Europe—we are looking towards the complete extinction of this disease, and the saving of our West, which means saving hundreds of millions, instead of two or three millions, a year to the cattle business and nation. When we are stamping out the disease, we should do nothing to propagate it. If the State and the nation will do nothing, then I say inoculaté, but not until we cannot get State action.

MR. BROOKS—Is there nothing between the extreme

remedies as presented—some intermediate means of curing the lung complaint?

PROFESSOR LAW—There is no doubt about it. A large majority, if treated, will survive. But there is just the same objection to treatment that there is to inoculation, that are preserving animals which are themselves propagating the poison. It is not good for the nation; it is good for the individual. Inoculate them by all means, if you can keep them entirely apart from other herds. I think the moment we are ready to go on, on the part of the State, and say, "I am prepared to indemnify you," we will have no trouble. I wish to put a question to Dr. Gadsden. He referred to the liberal indemnity given in Pennsylvania. I wish to ask if it has not been the practice there to take possession of the whole herd for the State—to give for the animals such an indemnity as proposed by two impartial men, and for anyone taken sick after, the full value?

DR. GADSDEN—The inspector is sent from the State Board of Agriculture, who is a special agent of the Government. He examines the herd; he appraises the price of the sick one and it is paid; he calls in the neighbors, and they put the value on the others. They cannot go higher than \$40. It is to their advantage to report the case themselves. In Delaware County almost every farm had pleuro-pneumonia. Now there is not a single case in the whole county. If there is a suspicion a report is sent to the inspector, and very often, so willing are the farmers to assist, he finds that there is nothing the matter, except that the cow has been eating too much.

CHAIRMAN—Is that value always the maximum price allowed?

DR. GADSDEN—Yes.

PROFESSOR LAW—Pennsylvania is like Massachusetts and Connecticut. It has not had to deal with the disease in the large cities; it has only had to deal with the country districts. They are spending somewhere about three or four thousand dollars a year. I opposed a small indemnity from the beginning, and am more and more convinced that a liberal indemnity means an economical extinction of this plague. The restriction we had to work under in New York was that they should be appraised according to their value as they stood.

DR. OTTERSON, being invited to address the conference, said: I do not think it would be just to these gentlemen for me to take up their time. They understand this better than I do, although I once occupied the chair you, Mr. Chairman,



now occupy. I am very glad to give any information to the people at large, and am very much interested in this subject, and I am financially interested, having cattle interests in New Jersey. I once got a message saying my cattle had this disease, and when I sent on there, found that they were suffering from misuse only.

MR. HICKS—I have known of this disease almost ever since it has been in this country. It was introduced in the vicinity of Brooklyn, and has been worse here than in any other section of the State. For that reason we must make endeavors to stamp it out. I am glad the great interests of the country are for stamping it out. I am glad they are waking up to their interests, for it calls the attention of the nation to it. No one State can do it, under the present circumstances. All efforts heretofore have been in the direction of single States. In Massachusetts it was stamped out, and it could be in this vicinity. As a matter of economy it would be wise for the State, nation, and for this city to stamp it out. Our methods differ, but it is clearly shown by the experiments of those conversant with the disease, that inoculation is a measure by which it cannot be curtailed, and, it is also very certain, cannot be stamped out. I think that by having no inoculation, and adopting other measures, it can be stamped out. I think it would give protection to destroy the stables where it has existed for years, and the individuals owning them should be properly reimbursed, and be allowed to remove their business elsewhere. Here they become antagonistic because of their loss. We can very readily see that when you attack a man's interests you will get up a feeling of antagonism. The true way is to compensate the losers, and enlist their sympathies towards removing the disease. What it would cost to stamp it out would not be much compared with the future loss.

DR. OTTERSON—To go to the alpha of this business—the point of diagnosis. You are aware that veterinarians are called to treat this disease where it does not exist, as in my own case. I think this point of diagnosis is the first point, and the point of all others of primary importance. You may say burn down stables, but the great trouble is to burn them properly, and without thoroughly burning them, there is no protection. If these stables are torn down, and one child takes a board here, and another one there, it will be the same as with small-pox, and the disease will be distributed far and wide. The father of the child will take the board, it may be to patch up a hole in his own stable, and then his own cattle will become infected. The department

should have power to destroy the plague, and it seems to me that the first and most important point is the diagnosis ; and were all cattle owners instructed, they would be able at once to detect the disease when first it appears.

MR. HICKS—We are met at once by a large proportion of Congress, who have no interest in this. It should rest with the States directly interested. If we attempt to call upon all the Southern States, they will say they have no interest in it, and will oppose it. So it is with other things. If we can only get harmonious action by those interested, we shall accomplish our object.

DR. PLAGEMAN—I believe inoculation would not prevent the spread of this disease. I believe the only remedy is stamping it out by strict quarantine regulations. I have seen it here and in the old country. It is not very easy to diagnose it, but I think that by strict quarantine regulations one can soon determine whether a cow has pleuro-pneumonia or not. I agree with Professor Law in a great many of his remarks, and that stamping the disease out is the only process.

DR. PETERS—I understand that lately there has been a law passed in Illinois, which prevents any veterinary surgeon practicing unless he holds a diploma. My idea about the disease is that stamping out would be the best thing for the entire country. But if certain districts attempt to practice inoculation, then there should be laws which would prevent them sending cattle out and infecting other districts. As to burning the stables, I think that is the least medium through which the disease spreads. I think that the dung, the sweepings, and whatever has been used for the cattle to sleep on, should be burned up. But I think there are at least half a dozen in this room who have not only a theoretical, but a practical knowledge of this disease, and are more competent to treat of it than I am.

DR. BARTLEY—I would like to ask some of these gentlemen whether they have ever seen any cases of contagion from inoculated animals. As far as I know, Dr. McLean, in his experiments, has not seen any case where animals have caught the disease from any that were inoculated. I should like to know if there is any positive evidence that inoculation will spread the disease ; also, how long the germs of this disease will remain in a stable. One gentlemen says eighteen months will be sufficient to stamp out the disease ; another says ten years, and that this system of killing must be kept up ten years.

PROFESSOR LAW—Disinfection must go with the killing.

DR. BARTLEY—If this disease was stamped out of New York County three years ago, how does it happen that it is so prevalent there now?

PROFESSOR LAW—From here.

DR. BARTLEY—Have all those cases been traced here?

PROFESSOR LAW—I do not know.

DR. HOPKINS—The disinfection is perfectly competent if sufficiently well done.

DR. BARTLEY—Then the burning of stables is not necessary?

DR. HOPKINS—Not in all cases. I have had cases where I disinfected, and since that time no case has occurred there.

DR. BARTLEY—What disinfectant did you use?

DR. HOPKINS—Sulphur, whitewash, and chloride of lime with carbolic acid.

DR. BARTLEY—I know of a case where a cow was in the stable a year or more, and I have frequently heard of such cases. If that stable is continuously infected and not sufficiently disinfected, it seems to me the owner ought to be allowed, while we are scrubbing it out, to inoculate his animals and protect his property. It seems to me there is no objection to having the animals inoculated, and any sick animals killed at once. I think if it is shown that if every animal inoculated, as soon as it comes into the stable will not contract the disease, there is no reason why inoculation should be stopped when we commence stamping it out. I am inclined to think that it is not usual for an inoculated animal to carry the disease.

MR. WILLIAMS—At the time this cattle commission had charge, they quarantined two places in our neighborhood. My neighbor got scared, and thought if he got pleuro-pneumonia he could not carry on his business. He goes and inoculates all of his cows, except four or five, in the stable. He had then about forty; all but about four or five were inoculated. Those that he did inoculate never took the disease, but those that were not inoculated did get it. Those that he did not inoculate died, and the others got well. I never could see any difference in the quantity and quality of the milk of the cows, and he has never had the disease from that time to this.

DR. L. MCLEAN—We are met here this morning to discuss this matter from a scientific point of view, particularly as to the effect that contagious pleuro-pneumonia has on the flesh

and milk of animals so affected, as an article of diet, and to consider the best means that might be adopted for its eradication. It can require no argument to prove that the milk and flesh of an animal suffering from a zymotic disease of this character, showing a temperature ranging as high as 107° Fahrenheit, cannot be suitable for human consumption, more especially the milk when used uncooked.

I perceive that a diversity of opinion has been expressed here to-day as to the best mode to be adopted in stamping out this plague. Viewing the position from a local standpoint, unaided by national or State assistance, I have heard nothing said to cause me to alter my opinion, as expressed to you in my reports, as to the efficacy and applicability of a well-organized system of inoculation. And, all theories to the contrary, it must be borne in mind that there is not on record one instance where the inoculation *per se* has propagated contagious pleuropneumonia.

But when the question comes to be considered from a national aspect, doubtless the slaughtering process, applied in its entirety to every affected district in every State, would be most expeditious, but I repeat that the simple killing of acutely affected cases *only* would be extreme folly and a waste of money. Of course this process will incur an enormous outlay to provide a liberal indemnity to those whose herds and premises are to be so dealt with.

DR. BARTLEY—Did you ever inoculate cows where pleuropneumonia never existed?

DR. L. MCLEAN—No; I don't believe there is a stable in this city of ten years standing that has not had the disease.

DR. BARTLEY—Have you ever seen a case of pleuropneumonia when you have inoculated? That is in an unaffected stable?

DR. L. MCLEAN—The general experience in Europe thoroughly endorses inoculation in contaminated centers but not in new places. Fleming recommends it. I should not express cattle to the West from infected districts, and for the protection of the rest of the country we should have quarantine. I have never inoculated in an unaffected stable. The germ propagates itself in the tissues. But Professor Law claims he has procured a virus that produces no bad lesions. He has told me so, and if successful it ought to be adopted.

PROFESSOR LAW—I do not know that I shall be able to go into that subject to-day without first obtaining the consent of the conference for taking up so much of their time. In 1878 I

practiced on two or three animals with swine plague virus and reported the results, but no one took any notice of it. Later I was led to entertain the view of pleuro-pneumonia that its germ propagates itself locally because I found its lesions localized wherever we implanted it, in the tail or anywhere else. It is a local disease primarily and only becomes generalized when far advanced. Yet the disease occurring in the tail only, gave a future immunity to the lungs when the germs had more manifested their presence. It seemed reasonable to suppose that, apart from the living germ which appeared to be confined to the seat of inoculation, there was a secretion from these germs, a chemical product which pervading the entire system conferred upon the lungs a power of resistance to a poison of which they were the normal seat of election. Again, alike in Europe and England experiments made by injecting the virulent lymph into the blood vessels, though they caused no local lesion, yet protected the system against subsequent assaults of the plague. Here the germ is destroyed in the battle for life with the blood globules and fails to find its way into its natural habit at the connective tissue—yet its excretion fortifies the system as if the disease had actually been developed. There are instances on record where the foetus has suffered from the disease and that goes against it. I think it speaks a principle that holds with regard to a good many other diseases, too—that the disease is at first local and then becomes generalized. I found when I introduced my sterilized virus there was no local lesion, and afterwards when I inoculated with living virus they showed no reaction. The animals were proof against it. Yet this same unchanged virus never failed to act on unprotected animals and usually fatally. I sent three of the protected animals to the outskirts of Brooklyn when they had just had the disease, and three to Baltimore in infected buildings. I had reports from them for six months after they were introduced, and there was no sign of the disease in any of them. So far the case goes very well, but we are confronted with the getting of sterilized virus to be used. To obtain it we must have diseased animals. This introduces the old danger of propagating the poison. I sterilized it by heat. That it was sterilized is to be inferred, that when set aside it underwent no decomposition. I let it stand in its own dish until it undergoes decomposition. The fact that it did not produce any reaction in the animals further implied that the germs were gone. The plan is excellent if we adopt inoculation, and we must adopt it if we can get no State or national action. But



I think there is really no good ground for adopting even that system if we can proceed with the stamping out. It is a cheaper method to the nation, and every year we lose more than it would cost to stamp it out. To talk of economy: it is only economy for this city.

PROFESSOR LAW offered the following, resolutions which were adopted:

At a conference of medical and veterinary sanitarians, stock-owners, and others, called by the Health Commissioner of Brooklyn, after due consideration, it was unanimously resolved to petition the Honorable Congress of the United States:

*First*—To appropriate a sufficient sum of money to stamp out the lung plague, or contagious pleuro-pneumonia of cattle in the United States.

In the opinion of the convention this sum should be sufficient—

A. To provide for the appointment and the remuneration of the requisite number of competent veterinarians to inspect all herds in infected districts.

B. To furnish a liberal indemnity for all cattle killed by official order, with the view of stamping out the above named disease.

C. To pay in full for all expenses of disinfection.

*Second*—That Governors of infected states should be called upon to co-operate with the United States Government in keeping a census of cattle in all herds in infected districts; in preventing all movements of cattle in such districts without license; in quarantining all infected herds; in slaughter of infected animals; in disinfection and all other needful restrictions.

*Third*—That the United States Government should, as far as possible, prohibit the removal of cattle out of any infected state which fails to adopt the measures requisite to stamp out the contagious pleuro-pneumonia or lung plague of cattle.

Honorable Erastus Brooks and Commissioner Raymond were appointed a committee to submit the resolutions to Congress and to the Governor of the State of New York.

Mr. Brooks being unable to serve, Dr. L. McLean was substituted.

After a vote of thanks to the Chairman, the conference adjourned.

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